

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1-11. (canceled)

12. (new) A process for the production of cross-linked beadlets containing one or more active ingredients selected from the group of a fat-soluble vitamin active material, a carotenoid and a polyunsaturated fatty acid, which comprises the steps of

forming an emulsion containing the active ingredients, an emulsifier and a reducing sugar, converting the emulsion to droplets,

coating the droplets with finely dispersed powder,

separating a dry particulate form from the remaining finely dispersed powder, and heat treating said particulate form,

characterized in that the dry particulate form is heat treated at a temperature in the range of from 90°C to 140°C for a time period of from 30 seconds to 30 minutes or from 1 minute to 10 minutes or from 3 minutes to 7 minutes in such a way that the final beadlet forms have a core and a surface region, wherein the core region contains, in a high concentration, the active~ ingredients and the surface region contains less than 10 % of the total active ingredient content.

13. (new) The process according to claim 12 wherein the fat-soluble vitamin active material is selected from vitamin A, vitamin D and vitamin E, the carotenoid is selected from β-carotene, lycopene, zeaxanthin, astaxanthin, lutein, capsanthin and cryptoxanthin and the polyunsaturated fatty acid is selected from arachidonic acid, eicosapentaenoic acid, docosahexaenoic acid and γ-linolenic acid and triglycerides and ethylesters thereof.

14. (new) The process according to claim 13 wherein the concentration of the fat-soluble vitamin active material, the carotenoid and the polyunsaturated fatty acid is selected from a total concentration in the range of from 500,000 IU vitamin Mg beadlet

to 1,500,000 IU vitamin A/g beadlet, in the range of from 100,000 IU vitamin D/g beadlet to 500,000 IU vitamin D/g beadlet, in the range of from 50 % to 75 % vitamin E, in the range of from 5 % to 20 % of carotenoid and in the range of from 20 % to 50 % polyunsaturated fatty acid as triglyceride.

15. (new) The process according to claim 12 wherein as finely dispersed powder calcium silicate is used.

16. (new) The process according to claim 12 wherein the dry particulate forms have a moisture content of less than 10 %.

17. (new) The process according to claim 12 wherein the heat treatment is achieved in a batch or in a continuous process where the beadlet residence time and temperature are controlled.

18. (new) The process according to claim 12 wherein the beadlet is added in a hot air or nitrogen stream having a temperature between 100 and 200°C.

19. (new) The process according to claim 12 wherein after addition of the dry particulate form the temperature is raised in a time in the range of from a few seconds to 1 minute above 100°C.

20. (new) The process according to claim 12 wherein heating takes place at a maximum beadlet temperature in the range of from 110°C to 140°C.

21. (new) A cross-linked beadlet form having a core and a surface region, wherein the core region contains, in a high concentration, one or more active ingredients selected from the group of a fat-soluble vitamin active material, a carotenoid and a polyunsaturated fatty acid, and the surface region contains less than 10 % or less than 5 % of the total active ingredient content.

22. (new) A cross-linked beadlet form containing one or more active ingredients selected from the group of Vitamin A in a total concentration in the range of from 800,000 IU vitamin A/g beadlet to 1,500,000 IU vitamin Mg beadlet, in a total concentration in the range of from 100,000 IU vitamin D/g beadlet to 500,000 IU vitamin

D/g beadlet, vitamin E in a total concentration in the range of from 50 % to 75 %, a carotenoid in a total concentration in the range of from 5 to 20% and a polyunsaturated fatty acid in a total concentration in the range of from 5 to 50%, wherein the surface region contains less than 10 % or less than 5 % of the total active ingredient content.

23. (new) The cross-linked beadlet form according to claim 22 having the following components:

30 % to 45 % of vitamin A, 0% to 2% of vitamin D₃, 5 % to 15 % of 6-ethoxy-1 ,2-dihydro-2,2,4-trimethylquinoline, as emulsifier 25 % to 35 % of gelatine, as reducing sugar 5 % to 10 % of fructose, 2 % to 10 % of glycerine, 5 % to 10 % of calcium silicate, 0 % to 25 % of corn starch, 0 % to 1 % of edible fat, and water.